

Appl. No. 09/688,672
Amdt. dated October 6, 2006
Reply to Office Action of July 28, 2006 and Advisory
Action of October 12, 2005

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A composition comprising an isolated MTb81 antigen (SEQ ID NO:2) from *Mycobacterium tuberculosis*, an isolated Mo2 antigen (SEQ ID NO:4) from *Mycobacterium tuberculosis*, and a pharmaceutically-acceptable excipient.
2. (Original) The composition of claim 1, wherein the antigens are covalently linked, thereby forming a fusion polypeptide.
3. (Previously presented) The composition of claim 2, wherein the fusion polypeptide has the amino acid sequence of TbF14 (SEQ ID NO:52).
4. (Previously presented) A composition comprising an isolated TbRa3 antigen (SEQ ID NO:6) from *Mycobacterium tuberculosis*, an isolated 38kD antigen (SEQ ID NO:8) from *Mycobacterium tuberculosis*, an isolated Tb38-1 antigen (SEQ ID NO:10) from *Mycobacterium tuberculosis*, an isolated FL TbH4 antigen (SEQ ID NO:12) from *Mycobacterium tuberculosis*, and a pharmaceutically-acceptable excipient.
5. (Original) The composition of claim 4, wherein the antigens are covalently linked, thereby forming a fusion polypeptide.
6. (Previously presented) The composition of claim 5, wherein the fusion polypeptide has the amino acid sequence of TbF15 (SEQ ID NO:54).
7. (Previously presented) A composition comprising an isolated HTCC#1 antigen (SEQ ID NO:14) from *Mycobacterium tuberculosis*, an isolated TbH9 antigen (SEQ ID NO:26) from *Mycobacterium tuberculosis*, and a pharmaceutically-acceptable excipient.

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8. (Original) The composition of claim 7, wherein the antigens are covalently linked, thereby forming a fusion polypeptide.

9-10. (Cancelled)

11. (Previously presented) The composition of claim 8, wherein the fusion polypeptide has the amino acid sequence of HTCC#1 (SEQ ID NO:14)-TbH9 (SEQ ID NO:26).

12. (Previously presented) The composition of claim 7, comprising a polypeptide comprising amino acids 184-392 of SEQ ID NO:14 from *Mycobacterium tuberculosis*, a TbH9 antigen (SEQ ID NO:26) from *Mycobacterium tuberculosis*, and a polypeptide comprising amino acids 1-129 of SEQ ID NO:14 from *Mycobacterium tuberculosis*

13. (Original) The composition of claim 12, wherein the antigens are covalently linked, thereby forming a fusion polypeptide.

14. (Previously presented) The composition of claim 13, wherein the fusion polypeptide has the amino acid sequence of SEQ ID NO:14 (184-392)/TbH9 (SEQ ID NO:26)/SEQ ID NO:14 (1-129).

15. (Previously presented) A composition comprising an isolated TbRa12 antigen (SEQ ID NO:28) from *Mycobacterium tuberculosis* and an isolated HTCC#1 antigen (SEQ ID NO:14) from *Mycobacterium tuberculosis*, and a pharmaceutically-acceptable excipient.

16. (Original) The composition of claim 15, wherein the antigens are covalently linked, thereby forming a fusion polypeptide.

17. (Previously presented) The composition of claim 16, wherein the fusion polypeptide has the amino acid sequence of TbRa12-HTCC#1 (SEQ ID NO:64).

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18. (Currently amended) A composition comprising at least two heterologous isolated antigens from *Mycobacterium tuberculosis* and a pharmaceutically-acceptable excipient wherein the antigen is selected from the group consisting of MTb81 (SEQ ID NO:2), Mo2 (SEQ ID NO:4), ~~TbRa3 (SEQ ID NO:6), 38kD (SEQ ID NO:8), Tb38.1 (MTb11) (SEQ ID NO:10),~~ FL TbH4 (SEQ ID NO:12), HTCC#1 (Mtb40) (SEQ ID NO:14), TbH9 (SEQ ID NO:26), MTCC#2 (Mtb41) (SEQ ID NO:32), DPEP (SEQ ID NO:40), DPPD (SEQ ID NO:44), TbRa35 (SEQ ID NO:30), TbRa12 (SEQ ID NO:28), MTb59 (SEQ ID NO:50), MTb82 (SEQ ID NO:48), Erd14 (Mtb16) (SEQ ID NO:42), FL TbRa35 (Mtb32A) (SEQ ID NO:30), DPV (Mtb8.4) (SEQ ID NO:38), MSL (Mtb9.8) (SEQ ID NO:36), MTI (Mtb9.9A, also known as MTI-A) (SEQ ID NO:34), ESAT-6 (SEQ ID NO:46), α -crystalline, and 85 complex.

19. (Previously presented) A composition comprising at least two heterologous isolated antigens from *Mycobacterium tuberculosis* and a pharmaceutically-acceptable excipient, wherein the antigen is selected from the group consisting of MTb81 (SEQ ID NO:2), Mo2 (SEQ ID NO:4), FL TbH4 (SEQ ID NO:12), HTCC#1 (Mtb40) (SEQ ID NO:14), TbH9 (SEQ ID NO:26), MTCC#2 (Mtb41) (SEQ ID NO:32), DPEP (SEQ ID NO:40), DPPD (SEQ ID NO:44), TbRa35 (SEQ ID NO:30), TbRa12 (SEQ ID NO:28), MTb59 (SEQ ID NO:50), MTb82 (SEQ ID NO:48), Erd14 (Mtb16) (SEQ ID NO:42), FL TbRa35 (Mtb32A) (SEQ ID NO:30), DPV (Mtb8.4) (SEQ ID NO:38), MSL (Mtb9.8) (SEQ ID NO:36), MTI (Mtb9.9A, also known as MTI-A) (SEQ ID NO:34), ESAT-6 (SEQ ID NO:46), α -crystalline, and 85 complex, wherein the antigens are covalently linked, thereby forming a fusion polypeptide.

20. (Original) The composition of claim 1, 4, 7, 15, or 18, wherein the antigens are covalently linked via a chemical linker.

21. (Original) The composition of claim 20, wherein the chemical linker is an amino acid linker.

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22. (Currently amended) The composition of claim 1, 4, 7, 15, or 18, further comprising at least one additional isolated antigen from *Mycobacterium tuberculosis*, wherein the antigen is selected from the group consisting of MTb81 (SEQ ID NO:2), Mo2 (SEQ ID NO:4), TbRa3 (SEQ ID NO:6), ~~38kD (SEQ ID NO:8), Tb38-1 (MTb11) (SEQ ID NO:10)~~, FL TbH4 (SEQ ID NO:12), HTCC#1 (Mtb40) (SEQ ID NO:14), TbH9 (SEQ ID NO:26), MTCC#2 (Mtb41) (SEQ ID NO:32), DPEP (SEQ ID NO:40), DPPD (SEQ ID NO:44), TbRa35 (SEQ ID NO:30), TbRa12 (SEQ ID NO:28), MTb59 (SEQ ID NO:50), MTb82 (SEQ ID NO:48), Erd14 (Mtb16) (SEQ ID NO:42), FL TbRa35 (Mtb32A) (SEQ ID NO:30), DPV (Mtb8.4) (SEQ ID NO:38), MSL (Mtb9.8) (SEQ ID NO:36), MTI (Mtb9.9A, also known as MTI-A) (SEQ ID NO:34), ESAT-6 (SEQ ID NO:46), α -crystalline, and 85 complex.

23. (Original) The composition of claim 1, 4, 7, 15, or 18, further comprising an adjuvant.

24. (Original) The composition of claim 23, wherein the adjuvant comprises QS21 and MPL.

25. (Previously presented) The composition of claim 23, wherein the adjuvant is selected from the group consisting of pVac, BCG, lipid A, Freund's complete adjuvant, Freund's incomplete adjuvant, Merck Adjuvant 65, aluminum phosphate, alum, quil A, 3D-MPL, QS7, β -escin, digitonin, ENHANZYN, MPL, QS21, CWS, TDM, AGP, CPG, Leif, saponin, and saponin mimetics.

26. (Original) The composition of claim 1, 4, 7, 15, or 18, further comprising BCG.

27. (Previously presented) The composition of claim 1, 4, 7, 15, or 18, further comprising an isolated NS1 antigen from *Mycobacterium tuberculosis*.

28-104. (Canceled)

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105. (Previously presented) A fusion protein comprising an MTb81 antigen (SEQ ID NO:2) from *Mycobacterium tuberculosis*, and an Mo2 antigen (SEQ ID NO:4) from *Mycobacterium tuberculosis*.

106. (Previously presented) The protein of claim 105, wherein the fusion polypeptide has the amino acid sequence of TbF14 (SEQ ID NO:52).

107. (Previously presented) A fusion protein comprising a TbRa3 antigen (SEQ ID NO:6) from *Mycobacterium tuberculosis*, a 38kD antigen (SEQ ID NO:8) from *Mycobacterium tuberculosis*, a Tb38-1 antigen (SEQ ID NO:10) from *Mycobacterium tuberculosis*, and a FL TbH4 antigen (SEQ ID NO:12) from *Mycobacterium tuberculosis*.

108. (Previously presented) The protein of claim 107, wherein the fusion polypeptide has the amino acid sequence of TbF15 (SEQ ID NO:54).

109. (Previously presented) A fusion protein comprising an HTCC#1 antigen (SEQ ID NO:14) from *Mycobacterium tuberculosis*, and a TbH9 antigen (SEQ ID NO:26) from *Mycobacterium tuberculosis*.

110. (Cancelled)

111. (Previously presented) The protein of claim 109, wherein the fusion polypeptide has the amino acid sequence of HTCC#1 (SEQ ID NO:14)-TbH9 (SEQ ID NO:26).

112. (Previously presented) The protein of claim 109, comprising a polypeptide comprising amino acids 184-392 of SEQ ID NO:14 from *Mycobacterium tuberculosis*, a TbH9 antigen (SEQ ID NO:26) from *Mycobacterium tuberculosis*, and a polypeptide comprising amino acids 1-129 of SEQ ID NO:14 from *Mycobacterium*.

113. (Previously presented) The protein of claim 112, wherein the fusion polypeptide has the amino acid sequence of SEQ ID NO:14 (184-392)/TbH9 (SEQ ID NO:26)/SEQ ID NO:14 (1-129).

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114. (Previously presented) A fusion protein comprising a TbRa12 antigen (SEQ ID NO:28) from *Mycobacterium tuberculosis*, and an HTCC#1 antigen (SEQ ID NO:14) from *Mycobacterium tuberculosis*.

115. (Previously presented) The protein of claim 114, wherein the fusion polypeptide has the amino acid sequence of TbRa12-HTCC#1 (SEQ ID NO:64).